

58. (Amended) The nucleic acid according to claim 54, wherein said nucleic acid comprises a sequence of nucleotides selected from the group consisting of:

a sequence of nucleotides encoding an alpha2 subunit and having the restriction map of the DNA encoding the human alpha2 subunit set forth in Figure 1,

a sequence of nucleotides encoding an alpha3 subunit and having the restriction map of the DNA encoding the human alpha3 subunit set forth in Figure 2, [or] and

a sequence of nucleotides encoding a beta2 subunit and having the restriction map of the DNA encoding the human beta2 subunit set forth in Figure 3.

68. (Amended) A method for screening compounds for activity as nicotinic acetylcholine receptor agonists or antagonists, said method comprising contacting cells according to claim 61 with a test compound, and thereafter monitoring the cells for nicotine binding activity, wherein said binding activity is determined by [measuring] monitoring the performance of said cells by measuring a performance parameter selected from the group consisting of the flux of ions through the membranes of the cells, [measuring] transcription of a reporter gene in the cells, [or measuring] and the electrophysiological response of the cells.

Please add new claims 76-84 as follows:

--76. (New) A substantially pure subunit of the human neuronal nicotinic acetylcholine receptor encoded by the molecule of claim 73.--

--77. (New) A substantially pure subunit of the human neuronal nicotinic acetylcholine receptor encoded by the molecule of claim 74.--

--78. (New) A substantially pure subunit of the human neuronal nicotinic acetylcholine receptor encoded by the molecule of claim 75.--

--79. (New) Isolated nucleic acid according to claim 57 that includes a sequence of nucleotides encoding an alpha2 subunit of a human neuronal nicotinic acetylcholine receptor deposited under ATCC Accession No. 68277.--

--80. (New) Isolated nucleic acid according to claim 57 that includes a sequence of nucleotides encoding an alpha3 subunit of a human neuronal nicotinic acetylcholine receptor deposited under ATCC Accession No. 68278.--

--81. (New) Isolated nucleic acid according to claim 57 that includes a sequence of nucleotides encoding a beta2 subunit of a human neuronal nicotinic acetylcholine receptor deposited under ATCC Accession No. 68279.--

--82. (New) A substantially pure subunit of the human neuronal nicotinic acetylcholine receptor encoded by the molecule of claim 79.--

--83. (New) A substantially pure subunit of the human neuronal nicotinic acetylcholine receptor encoded by the molecule of claim 80.--